



SEQUENCE LISTING

<110> Kato, Shigeaki
Takeyama, Ken-Ichi
Kitanaka, Sachiko

<120> GENE SCREENING METHOD USING NUCLEAR
RECEPTOR

<130> 06501-054001

<140> 09/489,198

<141> 2000-01-20

<150> PCT/JP98/03280

<151> 1998-07-22

<150> JP 9/212624

<151> 1997-07-22

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 507

<212> PRT

<213> Mus musculus

<400> 1

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Val Leu Arg Ser Leu Ser Asp Ile Pro Gly Pro Ser Thr Leu Ser Phe
35 40 45
Leu Ala Glu Leu Phe Cys Lys Gly Gly Leu Ser Arg Leu His Glu Leu
50 55 60
Gln Val His Gly Ala Ala Arg Tyr Gly Pro Ile Trp Ser Gly Ser Phe
65 70 75 80
Gly Thr Leu Arg Thr Val Tyr Val Ala Asp Pro Thr Leu Val Glu Gln
85 90 95
Leu Leu Arg Gln Glu Ser His Cys Pro Glu Arg Cys Ser Phe Ser Ser
100 105 110
Trp Ala Glu His Arg Arg Arg His Gln Arg Ala Cys Gly Leu Leu Thr
115 120 125
Ala Asp Gly Glu Glu Trp Gln Arg Leu Arg Ser Leu Leu Ala Pro Leu
130 135 140
Leu Leu Arg Pro Gln Ala Ala Ala Gly Tyr Ala Gly Thr Leu Asp Asn
145 150 155 160
Val Val Arg Asp Leu Val Arg Arg Leu Arg Arg Gln Arg Gly Arg Gly
165 170 175
Ser Gly Leu Pro Gly Leu Val Leu Asp Val Ala Gly Glu Phe Tyr Lys
180 185 190
Phe Gly Leu Glu Ser Ile Gly Ala Val Leu Leu Gly Ser Arg Leu Gly
195 200 205

Cys Leu Glu Ala Glu Val Pro Pro Asp Thr Glu Thr Phe Ile His Ala
 210 215 220
 Val Gly Ser Val Phe Val Ser Thr Leu Leu Thr Met Ala Met Pro Asn
 225 230 235 240
 Trp Leu His His Leu Ile Pro Gly Pro Trp Ala Arg Leu Cys Arg Asp
 245 250 255
 Trp Asp Gln Met Phe Ala Phe Ala Gln Arg His Val Glu Leu Arg Glu
 260 265 270
 Gly Glu Ala Ala Met Arg Asn Gln Gly Lys Pro Glu Glu Asp Met Pro
 275 280 285
 Ser Gly His His Leu Thr His Phe Leu Phe Arg Glu Lys Val Ser Val
 290 295 300
 Gln Ser Ile Val Gly Asn Val Thr Glu Leu Leu Leu Ala Gly Val Asp
 305 310 315 320
 Thr Val Ser Asn Thr Leu Ser Trp Thr Leu Tyr Glu Leu Ser Arg His
 325 330 335
 Pro Asp Val Gln Thr Ala Leu His Ser Glu Ile Thr Ala Gly Thr Arg
 340 345 350
 Gly Ser Cys Ala His Pro His Gly Thr Ala Leu Ser Gln Leu Pro Leu
 355 360 365
 Leu Lys Ala Val Ile Lys Glu Val Leu Arg Leu Tyr Pro Val Val Pro
 370 375 380
 Gly Asn Ser Arg Val Pro Asp Arg Asp Ile Arg Val Gly Asn Tyr Val
 385 390 395 400
 Ile Pro Gln Asp Thr Leu Val Ser Leu Cys His Tyr Ala Thr Ser Arg
 405 410 415
 Asp Pro Thr Gln Phe Pro Asp Pro Asn Ser Phe Asn Pro Ala Arg Trp
 420 425 430
 Leu Gly Glu Gly Pro Thr Pro His Pro Phe Ala Ser Leu Pro Phe Gly
 435 440 445
 Phe Gly Lys Arg Ser Cys Ile Gly Arg Arg Leu Ala Glu Leu Glu Leu
 450 455 460
 Gln Met Ala Leu Ser Gln Ile Leu Thr His Phe Glu Val Leu Pro Glu
 465 470 475 480
 Pro Gly Ala Leu Pro Ile Lys Pro Met Thr Arg Thr Val Leu Val Pro
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 Glu Arg Ser Ile Asn Leu Gln Phe Val Asp Arg
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<210> 2
 <211> 508
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Leu Ala Glu Leu Phe Cys Lys Gly Gly Leu Ser Arg Leu His Glu Leu
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 Gln Val Gln Gly Ala Ala His Phe Gly Pro Val Trp Leu Ala Ser Phe
 65 70 75 80
 Gly Thr Val Arg Thr Val Tyr Val Ala Ala Pro Ala Leu Val Glu Glu
 85 90 95

Leu Leu Arg Gln Glu Gly Pro Arg Pro Glu Arg Cys Ser Phe Ser Pro
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 Trp Thr Glu His Arg Arg Cys Arg Gln Arg Ala Cys Gly Leu Leu Thr
 115 120 125
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 Leu Leu Arg Pro Gln Ala Ala Ala Arg Tyr Ala Gly Thr Leu Asn Asn
 145 150 155 160
 Val Val Cys Asp Leu Val Arg Arg Leu Arg Arg Gln Arg Gly Arg Gly
 165 170 175
 Thr Gly Pro Pro Ala Leu Val Arg Asp Val Ala Gly Glu Phe Tyr Lys
 180 185 190
 Phe Gly Leu Glu Gly Ile Ala Ala Val Leu Leu Gly Ser Arg Leu Gly
 195 200 205
 Cys Leu Glu Ala Gln Val Pro Pro Asp Thr Glu Thr Phe Ile Arg Ala
 210 215 220
 Val Gly Ser Val Phe Val Ser Thr Leu Leu Thr Met Ala Met Pro His
 225 230 235 240
 Trp Leu Arg His Leu Val Pro Gly Pro Trp Gly Arg Leu Cys Arg Asp
 245 250 255
 Trp Asp Gln Met Phe Ala Phe Ala Gln Arg His Val Glu Arg Arg Glu
 260 265 270
 Ala Glu Ala Ala Met Arg Asn Gly Gly Gln Pro Glu Lys Asp Leu Glu
 275 280 285
 Ser Gly Ala His Leu Thr His Phe Leu Phe Arg Glu Glu Leu Pro Ala
 290 295 300
 Gln Ser Ile Leu Gly Asn Val Thr Glu Leu Leu Leu Ala Gly Val Asp
 305 310 315 320
 Thr Val Ser Asn Thr Leu Ser Trp Ala Leu Tyr Glu Leu Ser Arg His
 325 330 335
 Pro Glu Val Gln Thr Ala Leu His Ser Glu Ile Thr Ala Ala Leu Ser
 340 345 350
 Pro Gly Ser Ser Ala Tyr Pro Ser Ala Thr Val Leu Ser Gln Leu Pro
 355 360 365
 Leu Leu Lys Ala Val Val Lys Glu Val Leu Arg Leu Tyr Pro Val Val
 370 375 380
 Pro Gly Asn Ser Arg Val Pro Asp Lys Asp Ile His Val Gly Asp Tyr
 385 390 395 400
 Ile Ile Pro Lys Asn Thr Leu Val Thr Leu Cys His Tyr Ala Thr Ser
 405 410 415
 Arg Asp Pro Ala Gln Phe Pro Glu Pro Asn Ser Phe Arg Pro Ala Arg
 420 425 430
 Trp Leu Gly Glu Gly Pro Thr Pro His Pro Phe Ala Ser Leu Pro Phe
 435 440 445
 Gly Phe Gly Lys Arg Ser Cys Met Gly Arg Arg Leu Ala Glu Leu Glu
 450 455 460
 Leu Gln Met Ala Leu Ala Gln Ile Leu Thr His Phe Glu Val Gln Pro
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<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (30) ... (1550)

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Ser Arg Val Phe His Arg Ile His Leu Pro Leu Gln Leu Asp Ala Ser
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ctg ggc tcc aga ggc agt gag tcg gtt ctc cgg agc ttg tct gac atc 149
Leu Gly Ser Arg Gly Ser Glu Ser Val Leu Arg Ser Leu Ser Asp Ile
25 30 35 40

cct ggg ccc tct aca ctc agc ttc ctg gct gaa ctc ttc tgc aaa ggg 197
Pro Gly Pro Ser Thr Leu Ser Phe Leu Ala Glu Leu Phe Cys Lys Gly
45 50 55

ggg ctg tcc agg ctg cat gaa ctg cag gtg cat ggc gct gcg cgg tac 245
Gly Leu Ser Arg Leu His Glu Leu Gln Val His Gly Ala Ala Arg Tyr
60 65 70

ggg cca ata tgg tct ggc agc ttt ggg aca ctt cgc aca gtt tac gtt 293
Gly Pro Ile Trp Ser Gly Ser Phe Gly Thr Leu Arg Thr Val Tyr Val
75 80 85

gcc gac cct aca ctt gtg gag cag ctc ctg cga caa gaa agt cac tgt 341
Ala Asp Pro Thr Leu Val Glu Gln Leu Leu Arg Gln Glu Ser His Cys
90 95 100

cga gag cgc tgt agt ttc tca tca tgg gca gag cac cgt cgc cgc cac 389
Pro Glu Arg Cys Ser Phe Ser Ser Trp Ala Glu His Arg Arg Arg His
105 110 115 120

cag cgt gct tgc gga ttg cta acg gcg gat ggt gaa gaa tgg cag agg 437
Gln Arg Ala Cys Gly Leu Leu Thr Ala Asp Gly Glu Glu Trp Gln Arg
125 130 135

ctc cga agt ctt ctg gcc ccg ctc ctc ctc cgg cca caa gca gcc gcg 485
Leu Arg Ser Leu Leu Ala Pro Leu Leu Leu Arg Pro Gln Ala Ala Ala
140 145 150

ggc tat gct gga act ctg gac aac gtg gtc cgt gac ctt gtg cga cga 533
Gly Tyr Ala Gly Thr Leu Asp Asn Val Val Arg Asp Leu Val Arg Arg
155 160 165

cta agg cgc cag cgg gga cgt ggc tct ggg cta ccc ggc cta gtt ctg 581
Leu Arg Arg Gln Arg Gly Arg Gly Ser Gly Leu Pro Gly Leu Val Leu
170 175 180

gac gtg gca gga gag ttt tac aaa ttt ggc cta gaa agt ata ggc gcg 629
Asp Val Ala Gly Glu Phe Tyr Lys Phe Gly Leu Glu Ser Ile Gly Ala
185 190 195 200

Q2

gtg ctg ctg gga tcg cgc ctg ggc tgc cta gag gct gaa gtc cct cct 677
 Val Leu Leu Gly Ser Arg Leu Gly Cys Leu Glu Ala Glu Val Pro Pro
 205 210 215

gac aca gaa acc ttc ata cat gca gtg ggc tca gtg ttt gtg tct aca 725
 Asp Thr Glu Thr Phe Ile His Ala Val Gly Ser Val Phe Val Ser Thr
 220 225 230

ctc ttg acc atg gcg atg ccc aac tgg ttg cac cac ctt ata cct gga 773
 Leu Leu Thr Met Ala Met Pro Asn Trp Leu His His Leu Ile Pro Gly
 235 240 245

ccc tgg gcc cgc ctc tgc cga gac tgg gat cag atg ttt gcc ttt gcc 821
 Pro Trp Ala Arg Leu Cys Arg Asp Trp Asp Gln Met Phe Ala Phe Ala
 250 255 260

cag agg cac gtg gag ctg cga gaa ggt gaa gct gcg atg agg aac cag 869
 Gln Arg His Val Glu Leu Arg Glu Gly Glu Ala Ala Met Arg Asn Gln
 265 270 275 280

gga aag cct gag gag gat atg ccg tct ggg cat cac tta acc cac ttc 917
 Gly Lys Pro Glu Glu Asp Met Pro Ser Gly His His Leu Thr His Phe
 285 290 295

ctt ttt cgg gaa aag gtg tct gtc cag tcc ata gtg ggg aat gtg aca 965
 Leu Phe Arg Glu Lys Val Ser Val Gln Ser Ile Val Gly Asn Val Thr
 300 305 310

gag cta cta ctg gct gga gtg gac acg gta tcc aat acg ctc tcc tgg 1013
 Glu Leu Leu Leu Ala Gly Val Asp Thr Val Ser Asn Thr Leu Ser Trp
 315 320 325

aca ctc tat gag ctt tcc cgg cac ccc gat gtc cag act gca ctc cac 1061
 Thr Leu Tyr Glu Leu Ser Arg His Pro Asp Val Gln Thr Ala Leu His
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tct gag atc aca gct ggg acc cgt ggc tcc tgt gcc cac ccc cat ggc 1109
 Ser Glu Ile Thr Ala Gly Thr Arg Gly Ser Cys Ala His Pro His Gly
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act gct ctg tcc cag ctg ccc ctg tta aag gct gtg atc aaa gaa gtg 1157
 Thr Ala Leu Ser Gln Leu Pro Leu Leu Lys Ala Val Ile Lys Glu Val
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 380 385 390

gac atc cgt gta gga aac tat gta att ccc caa gat acg cta gtc tcc 1253
 Asp Ile Arg Val Gly Asn Tyr Val Ile Pro Gln Asp Thr Leu Val Ser
 395 400 405

cta tgt cac tat gcc act tca agg gac ccc aca cag ttt cca gac ccc 1301
 Leu Cys His Tyr Ala Thr Ser Arg Asp Pro Thr Gln Phe Pro Asp Pro
 410 415 420

CNL
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 Asn Ser Phe Asn Pro Ala Arg Trp Leu Gly Glu Gly Pro Thr Pro His
 425 430 435 440

cca ttt gca tct ctt ccc ttc ggc ttt ggc aaa cgg agc tgc atc ggg 1397
 Pro Phe Ala Ser Leu Pro Phe Gly Phe Gly Lys Arg Ser Cys Ile Gly
 445 450 455

aga cgc ttg gca gag ctt gag cta caa atg gct ttg tcc cag atc ttg 1445
 Arg Arg Leu Ala Glu Leu Glu Leu Gln Met Ala Leu Ser Gln Ile Leu
 460 465 470

acc cat ttt gaa gtg cta cct gag cca ggt gct ctt cct atc aag ccc 1493
 Thr His Phe Glu Val Leu Pro Glu Pro Gly Ala Leu Pro Ile Lys Pro
 475 480 485

atg acc cgg act gtc ctg gtc cct gag agg agc atc aat cta cag ttt 1541
 Met Thr Arg Thr Val Leu Val Pro Glu Arg Ser Ile Asn Leu Gln Phe
 490 495 500

gta gat aga taaccattcg gaagacagcc aacatcgtct ctctcaagac 1590
 Val Asp Arg
 505

aggatgggggt ctttgttata cacaagaggc acactctcct tggaggcctg tctgaccgag 1650
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<220>
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 <222> (1)...(2362)
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Trp Ala Pro Glu Leu Gly Ala Ser Leu Gly Tyr Arg Glu Tyr His Ser	
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Ala Arg Arg Ser Leu Ala Asp Ile Pro Gly Pro Ser Thr Pro Ser Phe	
35 40 45	
ctg gcc gaa ctt ttc tgc aag ggg ggg ctg tcg agg cta cac gag ctg	192
Leu Ala Glu Leu Phe Cys Lys Gly Gly Leu Ser Arg Leu His Glu Leu	
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cag gtg cag ggc gcc gcg cac ttc ggg ccg gtg tgg cta gcc agc ttt	240
Gln Val Gln Gly Ala Ala His Phe Gly Pro Val Trp Leu Ala Ser Phe	
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Gly Thr Val Arg Thr Val Tyr Val Ala Ala Pro Ala Leu Val Glu Glu	
85 90 95	
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Leu Leu Arg Gln Glu Gly Pro Arg Pro Glu Arg Cys Ser Phe Ser Pro	
100 105 110	
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Trp Thr Glu His Arg Arg Cys Arg Gln Arg Ala Cys Gly Leu Leu Thr	
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Ala Glu Gly Glu Glu Trp Gln Arg Leu Arg Ser Leu Leu Ala Pro Leu	
130 135 140	
ctc ctc cgg cct caa gcg gcc gcc cgc tac gcc gga acc ctg aac aac	480
Leu Leu Arg Pro Gln Ala Ala Ala Arg Tyr Ala Gly Thr Leu Asn Asn	
145 150 155 160	
gta gtc tgc gac ctt gtg cgg cgt ctg agg cgc cag cgg gga cgt ggc	528
Val Val Cys Asp Leu Val Arg Arg Leu Arg Arg Gln Arg Gly Arg Gly	
165 170 175	
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Thr Gly Pro Pro Ala Leu Val Arg Asp Val Ala Gly Glu Phe Tyr Lys	
180 185 190	
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Phe Gly Leu Glu Gly Ile Ala Ala Val Leu Leu Gly Ser Arg Leu Gly	
195 200 205	
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Cys Leu Glu Ala Gln Val Pro Pro Asp Thr Glu Thr Phe Ile Arg Ala	
210 215 220	
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Val Gly Ser Val Phe Val Ser Thr Leu Leu Thr Met Ala Met Pro His	
225 230 235 240	
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CMT
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Trp	Leu	Arg	His	Leu	Val	Pro	Gly	Pro	Trp	Gly	Arg	Leu	Cys	Arg	Asp	
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Trp	Asp	Gln	Met	Phe	Ala	Phe	Ala	Gln	Arg	His	Val	Glu	Arg	Arg	Glu	
			260					265				270				
gca	gag	gca	gcc	atg	agg	aac	gga	gga	cag	ccc	gag	aag	gac	ctg	gag	864
Ala	Glu	Ala	Ala	Met	Arg	Asn	Gly	Gly	Gln	Pro	Glu	Lys	Asp	Leu	Glu	
			275				280					285				
tct	ggg	gcg	cac	ctg	acc	cac	ttc	ctg	ttc	cgg	gaa	gag	ttg	cct	gcc	912
Ser	Gly	Ala	His	Leu	Thr	His	Phe	Leu	Phe	Arg	Glu	Glu	Leu	Pro	Ala	
	290					295				300						
cag	tcc	atc	ctg	gga	aac	gtg	aca	gag	ttg	cta	ttg	gag	gga	gtg	gac	960
Gln	Ser	Ile	Leu	Gly	Asn	Val	Thr	Glu	Leu	Leu	Leu	Ala	Gly	Val	Asp	
305					310					315					320	
acg	gtg	tcc	aac	acg	ctc	tct	tgg	gct	ctg	tat	gag	ctc	tcc	cgg	cac	1008
Thr	Val	Ser	Asn	Thr	Leu	Ser	Trp	Ala	Leu	Tyr	Glu	Leu	Ser	Arg	His	
				325					330					335		
ccc	gaa	gtc	cag	aca	gca	ctc	cac	tca	gag	atc	aca	gct	gcc	ctg	agc	1056
Pro	Glu	Val	Gln	Thr	Ala	Leu	His	Ser	Glu	Ile	Thr	Ala	Ala	Leu	Ser	
			340					345				350				
cct	ggc	tcc	agt	gcc	tac	ccc	tca	gcc	act	ggt	ctg	tcc	cag	ctg	ccc	1104
Pro	Gly	Ser	Ser	Ala	Tyr	Pro	Ser	Ala	Thr	Val	Leu	Ser	Gln	Leu	Pro	
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ctg	ctg	aag	gag	gtg	gtc	aag	gaa	gtg	cta	aga	ctg	tac	cct	gtg	gta	1152
Leu	Leu	Lys	Ala	Val	Val	Lys	Glu	Val	Leu	Arg	Leu	Tyr	Pro	Val	Val	
		370				375					380					
cct	gga	aac	tct	cgt	gtc	cca	gac	aaa	gac	att	cat	gtg	ggt	gac	tat	1200
Pro	Gly	Asn	Ser	Arg	Val	Pro	Asp	Lys	Asp	Ile	His	Val	Gly	Asp	Tyr	
385					390					395					400	
att	atc	ccc	aaa	aac	acg	ctg	gtc	act	ctg	tgt	cac	tat	gcc	act	tca	1248
Ile	Ile	Pro	Lys	Asn	Thr	Leu	Val	Thr	Leu	Cys	His	Tyr	Ala	Thr	Ser	
				405					410					415		
agg	gac	cct	gcc	cag	ttc	cca	gag	cca	aac	tct	ttt	cgt	cca	gct	cgc	1296
Arg	Asp	Pro	Ala	Gln	Phe	Pro	Glu	Pro	Asn	Ser	Phe	Arg	Pro	Ala	Arg	
			420					425					430			
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Trp	Leu	Gly	Glu	Gly	Pro	Thr	Pro	His	Pro	Phe	Ala	Ser	Leu	Pro	Phe	
			435				440					445				
ggc	ttt	ggc	aag	cgc	agc	tgt	atg	ggg	aga	cgc	ctg	gca	gag	ctt	gaa	1392
Gly	Phe	Gly	Lys	Arg	Ser	Cys	Met	Gly	Arg	Arg	Leu	Ala	Glu	Leu	Glu	
			450			455					460					
ttg	caa	atg	gct	ttg	gcc	cag	atc	cta	aca	cat	ttt	gag	gtg	cag	cct	1440
Leu	Gln	Met	Ala	Leu	Ala	Gln	Ile	Leu	Thr	His	Phe	Glu	Val	Gln	Pro	

cont
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Glu Pro Gly Ala Ala Pro Val Arg Pro Lys Thr Arg Thr Val Leu Val				
	485	490	495	
cct gaa agg agc atc aac cta cag ttt ttg gac aga tagtcccatg				1534
Pro Glu Arg Ser Ile Asn Leu Gln Phe Leu Asp Arg				
	500	505		
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aagctctttg agaggaaggg tgaagtctta tttgtttttt atgtcccctg ccagggcctg				2014
tctctgacta ggtgtcacca tacacattct tagattgaat ctgaaccatg tggcagaagg				2074
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cctgcccagg cctctggctt tttatattga aaatttttaa atattcacia attttagaat				2314
aaaccaaata ttccattctt aaaaaaaaaa aaaaaaaaaa aaaaaaaa				2362

chr
2.